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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

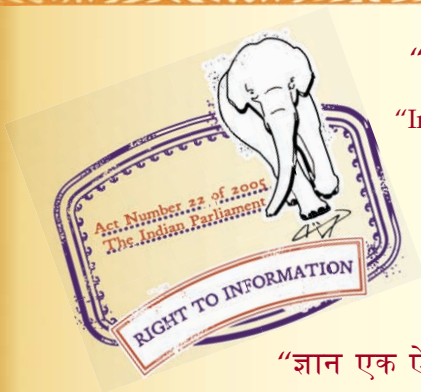
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5185 (1969): Articulators, Dental [MHD 8: Dentistry]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 5185 - 1969
(Reaffirmed 1987)

Indian Standard

**SPECIFICATION FOR
ARTICULATORS, DENTAL**

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 3

October 1969

Indian Standard

SPECIFICATION FOR ARTICULATORS, DENTAL

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Indian Standard

SPECIFICATION FOR ARTICULATORS, DENTAL

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 16 July 1969, after the draft finalized by the Dental Instruments Sectional Committee had been approved by the Consumer Products Division Council.

0.2 This standard is one of a series of Indian Standards on dental instruments and has been formulated at the instance of the Advisory Committee for Development of Surgical Instruments, Equipment and Appliances, Government of India. Other specifications published so far in the series are given on p 10.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements of plane-line articulators, Types 1 and 2 and free-plane articulator used for setting the artificial teeth in proper relation to each other in denture construction and for other purposes, where upper and lower casts have to be articulated.

2. MATERIALS

2.1 Upper member and lower member including body shall be made of aluminium alloy conforming to Designation A-6-M of IS : 617-1959†.

2.2 Material used for the manufacture of model wires (upper and lower), compensating curve guide and bent pin shall be stainless steel conforming to Designation 22Cr13 of Schedule V of IS : 1570-1961‡.

*Rules for rounding of numerical values (*revised*).

†Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes (*revised*).

‡Schedules for wrought steels for general engineering purposes.

2.3 Spring shall be made of stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961*.

2.4 Plunger shall be made of free cutting brass conforming to IS : 319-1962† and all other parts shall be made either of free cutting brass conforming to IS : 319-1962† or stainless steel conforming to Designation 22Cr13 of Schedule V of IS : 1570-1961*.

3. SHAPES AND DIMENSIONS

3.1 The articulators shall conform to shapes and dimensions as shown in Fig. 1 to 3.

4. CONSTRUCTION

4.1 Plane-Line Articulator, Type 1 — The upper member and the lower member including body shall be cast separately and shall be joined by a bent pin as shown in Fig. 1. The movement of the upper member in vertical plane shall be controlled by a position screw provided with a lock-nut. The upper and lower members shall fit snugly permitting no lateral play when secured with a bent pin.

4.2 Plane-Line Articulator, Type 2 — The upper member and the lower member including body shall be cast separately. The upper member shall pivot on a ball bearing hinge, ensuring smooth movement, easy removal and replacement. The movement of the upper member in vertical plane shall be controlled by a position screw provided with a lock-nut.

4.3 Free-Plane Articulator — The upper member and the lower member including body and sighting rest shall be cast separately. The upper member shall be assembled with the body through centre bar. Lock-nuts having flat sides shall be provided for securing rigidly the upper member with the centre bar. The distance between upper and lower members shall be adjusted by the incisal rod, the top of which is graduated in 1 mm × 10 divisions with a guide groove for locking. The axis of the incisal guidance pin shall be at right angles to the axis of the guide groove in the vertical plane. The condylar path in the housing shall make an angle of 30° with the horizontal. Springs shall be provided in the condylar housing to bring back the upper member to its lowest rest position after backward and lateral excursions. The fixed incisal table shall have an inclination of 10° from horizontal. The lower tip of the incisal rod shall rest in true centre of the fixed incisal table when the centre bar is in the lowest rest position and top of the incisal rod is in flush with the top surface of the upper

*Schedules for wrought steels for general engineering purposes.

†Specification for free cutting brass rods and sections (revised).

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member. The movement of the incisal rod on incisal table shall be smooth. A sight bar and incisal guidance pin shall be provided for viewing the alignment of the occlusal plane. Model wires shall also be provided for holding and releasing the plaster. A curved horse-shoe shaped plate, known as compensating curve guide shall be provided for guiding the arrangement of upper anterior and posterior teeth.

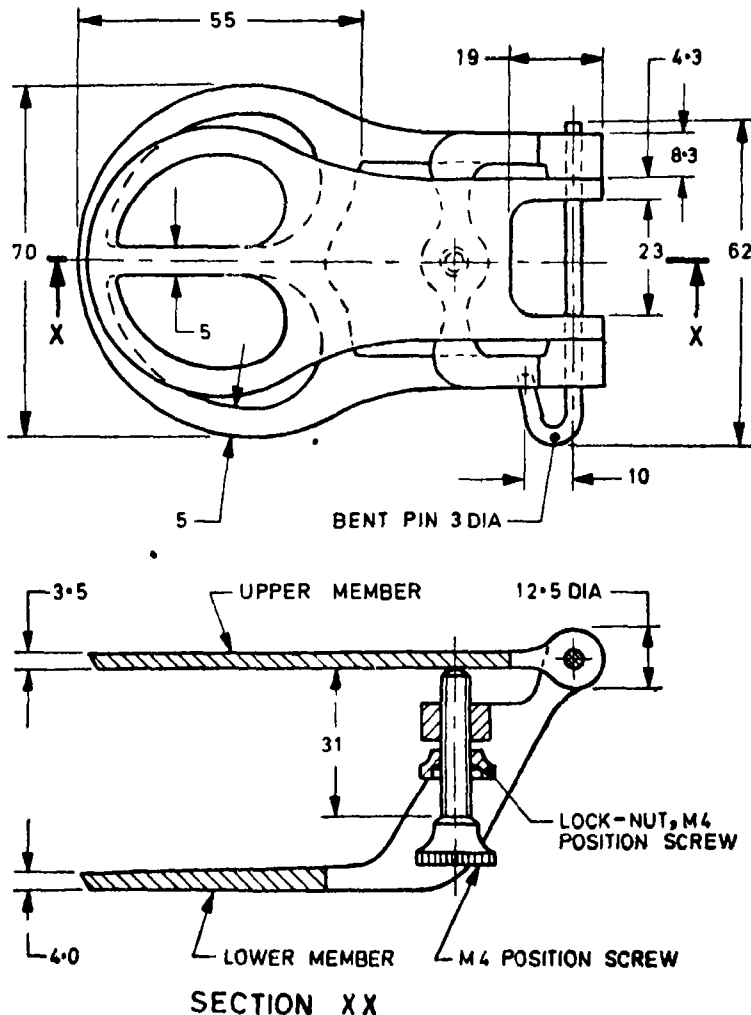


FIG. 1 All dimensions in millimetres.
PLANK-LINK ARTICULATOR, TYPE 1

AMENDMENT NO. 1 JULY 1971
TO
IS : 5185 - 1969 SPECIFICATION FOR
ARTICULATORS, DENTAL

Addendum

(Page 4, clause 4.3, line 3 from the top) — Add the following sentences after the words 'occlusal plane':

'The head of the incisal guidance pin shall have a screw driver notch.
The sighting rest shall have a horizontal groove on both the sides
at the level of incisal guidance pin.'

(CPDG 21)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO.2 DECEMBER 1985
TO
IS: 5185-1969 SPECIFICATION FOR ARTICULATORS,
DENTAL

(Page 3, clause 3.1) - Add the following new clauses after this clause:

'3.1.1 Tolerances on linear dimensions shall be permitted as given below:

- a) ± 0.05 mm on dimensions up to 2.0 mm;
- b) ± 0.1 mm on dimensions above 2.0 mm and up to 10.0 mm,
- c) ± 0.2 mm on dimensions above 10.0 mm and up to 20.0 mm,
- d) ± 0.5 mm on dimensions above 20.0 mm and up to 50.0 mm, and
- e) ± 1.0 mm on dimensions above 50.0 mm.

3.1.2 Tolerances on angular dimensions shall be permitted as given below:

- a) $\pm 1^\circ$ on angles up to 10° , and
- b) $\pm 2^\circ$ on angles greater than 10° .

(Page 6, clauses 7.1 and 7.1.1) - Substitute the following for the existing clauses:

"7.1 Corrosion Resistance Test - The stainless steel components shall be tested for corrosion resistance as specified in IS: 7531-1975 'Method for boiling and autoclaving test for corrosion resistance of stainless steel surgical instruments'. They shall not show any sign of corrosion after the test."

(CHDC 21)

Reprography Unit, BIS, New Delhi, India

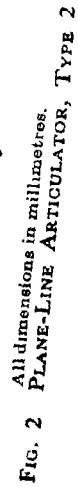


FIG. 2 PLANE-LINE ARTICULATOR, TYPE 2

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5. WORKMANSHIP AND FINISH

5.1 The castings shall be sound and free from blowholes, cracks, and other casting defects. It shall also be stress-relieved.

5.2 All surfaces shall be finished smooth and polished, unless otherwise specified in the figures.

5.3 Stainless steel components shall be passivated and finished bright all over.

5.4 All brass parts excluding plunger shall be plated chromium over nickel and the plating shall conform to Service Grade No. 2 of IS: 1068-1968*.

5.5 The profile of all screw threads shall conform to IS: 4218 (Part I)-1968†.

6. HEAT TREATMENT

6.1 The stainless steel components made of 30Cr13 shall be uniformly hardened and tempered to 370 to 410 HV, whereas those made of 22Cr13 shall be uniformly hardened and tempered to 300 to 350 HV.

7. TESTS

7.1 Corrosion Resistance Test — The stainless steel component shall be tested for corrosion resistance as given in 7.1.1.

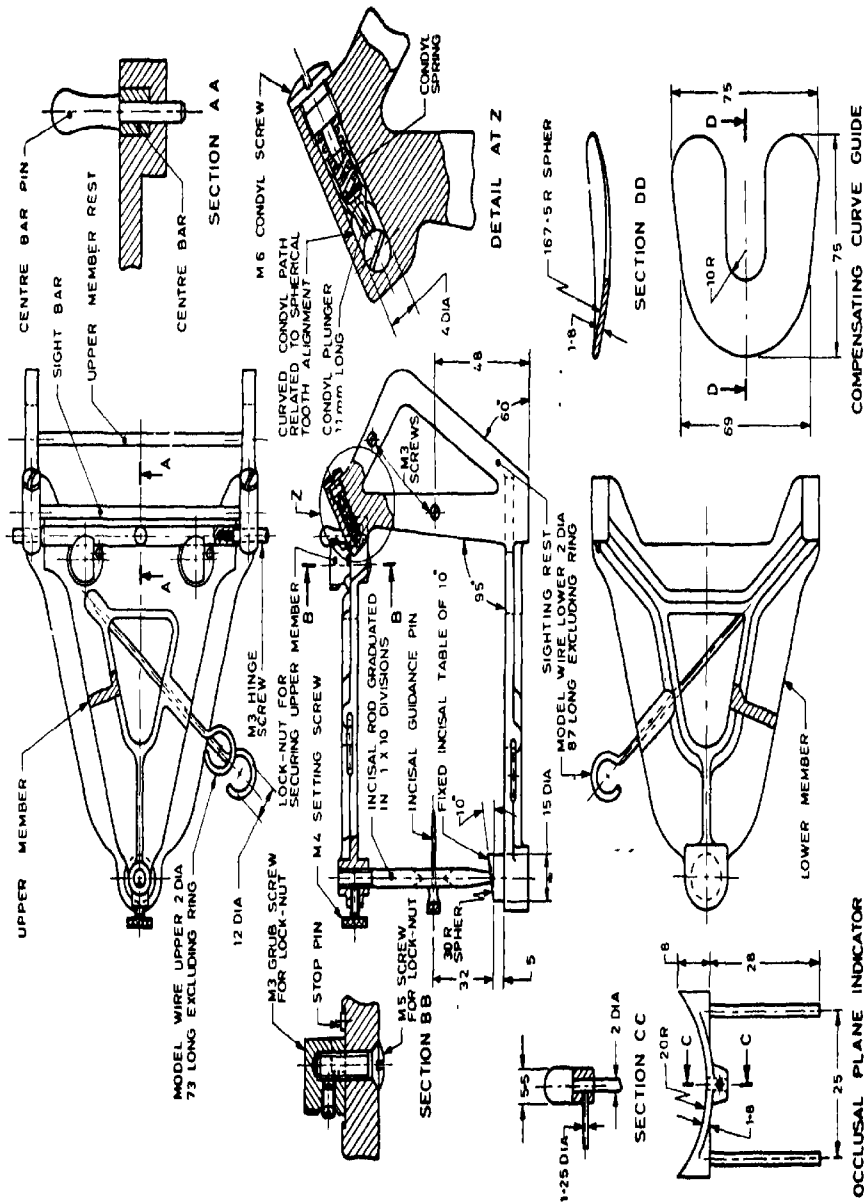
7.1.1 *Copper Sulphate Test* — The instrument shall be scrubbed with soap and warm water, rinsed in hot water followed by a dip in ethyl alcohol (95 percent) and dried. The instrument shall be completely immersed in the copper sulphate solution at room temperature for six minutes and then washed with fresh water or wiped with wet cotton wool. The copper sulphate solution shall be made up as follows:

Copper sulphate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)	4.0 g
Sulphuric acid (H_2SO_4) (sp gr 1.84)	10.0 g
Water (H_2O)	90.0 ml

There shall be no red stains or spots on the instrument after the test, but the polished surface becoming dull may be permitted.

*Specification for electroplated coatings of nickel and chromium on iron and steel (first revision).

†ISO metric screw threads: Part I Basic and design profile.



All dimensions in millimetres.

FIG. 3 FREE-PLANE ARTICULATOR

8. MARKING

8.1 The instrument shall be legibly and indelibly marked with the manufacturer's name, initials or trade-mark and the country of manufacture.

8.1.1 The articulator may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. PACKING

9.1 The instrument shall be kept in polyethylene bag or wrapped in wax paper and packed in carton bearing the name of the instrument, the manufacturer's name, initials or trade-mark and the country of manufacture.

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